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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CRAIG, DWIN M

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 01/22/2004

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/496,563

Applicant(s)

ASKINS ET AL.

Examiner

Dwin M Craig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11-14-2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 16.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-14 have been presented for reconsideration in view of Applicants amended claim language.

Response to Arguments

2. Applicant's arguments filed on 14 November 2003 have been fully considered. The Examiners response is as follows:

2.1 Regarding Applicant's response to the objection to Claim 14:

Applicants have corrected the previous grammatical error and the Examiner withdraws the earlier objection to the claim language.

2.2 Regarding Applicant's response to the 35 U.S.C. 103(a) rejections of Claims 1-14 by Willis et al. U.S. Patent 5,999,734 in view of Srivastava et al. U.S. Patent 5,752,034 and in further view of Bigo et al. U.S. Patent 5,261,099.

Applicants have argued that:

In view of the claim amendments, as discussed during the Examiner interview, it is respectfully submitted that the claims are patentable over the references relied upon by the Examiner. Applicant understands and appreciates that the Examiner will perform further searching based on the amended claims, and Applicant eagerly awaits the results of this further searching.

The Examiner withdraws the earlier 35 U.S.C. 103 (a) rejections of Claims 1-14 because of the changed scope of the amended claim language. The prior art of record does not teach or make obvious the modeling of mechanical systems using object-oriented methods.

An updated search, based on the expanded scope of the claims, has revealed new art

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1 -14** are being rejected under 35 U.S.C. 103(a) as being unpatentable over **Bershteyn et al. U.S. Patent 5,678,028** in view of **Schoening et al. U.S. Patent 6,205,465**.

5.1 As regards independent **Claims 1 & 8** the *Bershteyn et al.* reference teaches, a computer program for use with a computer system to execute a simulation with a plurality of computer readable program code means configured to collectively determine simulated attributes of objects of an environment under simulated operation wherein the objects are mechanical systems operating in the environment, each service code means associated with at least a subset of object attributes in an object data base (**Figures 1 & 2, Col. 4 Lines 42-67, Col. 5 Lines 1-6**), and each service program code means executing at a rate independent of the other service program code means wherein the rate is based on the simulated attributes, including service

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program code means to access and operate upon object attributes from the object database
(Figure 3-10, Col. 7 Lines 47-67, Col. 8 Lines 1-31, Col. 10 Lines 34-42).

However, the *Bershteyn et al.* reference does not expressly disclose, write queue program code means, write determined simulated attributes to the object database and node computer program code means that coordinates execution of queued requests to cause the determined simulated attributes to be written to the object database.

The *Bershteyn et al.* reference teaches that there is a need in the simulation art for methods to speed up simulations and reduce the amount of time required to simulate mechanical systems (Col. 5 Lines 46-52, Col. 7 Lines 26-47). An artisan of ordinary skill would have been motivated to seek a method of executing a simulation in a system where the execution can take place in parallel and do so in a manner that would allow for access to simulated data objects in such a manner as to not corrupt the attributes of those objects by more than one executing simulation process trying to write to those object attributes at the same time. In the related art of process scheduling in a multitasking environment, the *Schoening et al.* reference teaches a write queue program code means, write determined simulated attributes to the object database and node computer program code means that coordinates execution of queued requests to cause the determined simulated attributes to be written to the object database (Figures 2A, 2E, 5A, 7A, Item 712, Col. 3 Lines 12-32, Col. 4 Lines 12-21, Col. 27 Lines 18-21, Col. 28 Lines 15-24, Col. 28 Lines 51-56, Col. 41 Lines 15-24).

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have combined the object simulation methods of the *Bershteyn et al.* reference with the multithreaded object database management methods of the *Schoening et al.*

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reference because, there is a need in the object programming art to provide write access to common objects (*Schoening et al.* Col. 3 Lines 62-63).

5.2 As regards dependent Claims 2, 4, 9 and 11 the *Bershteyn et al.* reference discloses an object image (Col. 4 Lines 50-65).

5.3 As regards dependent Claims 3 & 10 the *Bershteyn et al.* reference discloses changing a pointer (Figure 5).

5.4 As regards dependent Claims 5, 6, 7, 12, 13 and 14 the *Bershteyn et al.* reference does not expressly disclose a write queue, an object data base association notification from a node control program to the write queue program.

The *Schoening et al.* reference teaches a write queue, an object database association notification from a node control program to the write queue program (Figures 2D, 2E, 2G, 2H, 3A, 5A, 7A, 7D, Col. 3 Lines 13-32).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the object simulation technology of the *Bershteyn et al.* reference with the write queue technology of the *Schoening et al.* reference because, there is a clear need for a simple mechanism that enables an application program to execute two or more processes in parallel with respects to sets of data, (*Schoening et al.* Col. 3 Lines 50-53).

Conclusion

7. Applicant has presented Claims 1-14 for reconsideration in view of Applicant's amendments. Amended Claims 1-14 have been Examined and rejected.

7.1 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7.2 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent 6,086,248 discloses the simulation of thermal characteristics.
- U.S. Patent 6,208,953 discloses the simulation of mechanical components.
- U.S. Patent 6,064,996 discloses the simulation of mechanical systems.
- “JAVA-BASED QUERY DRIVEN SIMULATION ENVIRONMENT” by Rajesh S. Nair, John A. Miller and Zhiwei Ahang discloses object oriented simulation and modeling.
- “A Computerized Design Environment for Functional Modeling of Mechanical Products” by Y.M. Deng, S.B. Tor and G.A. Britton discloses object oriented methods of modeling mechanical systems.

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7.3 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 9:00 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

DMC
January 20, 2004


HUGH JONES PH.D.
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100